

Amendments to the claims:

1. (currently amended) An apparatus (1) for converting a flow of matter (4) containing hydrocarbons to a hydrogen-enriched fluid flow (10), comprising:

a heating apparatus (5) for production of a heating stream (6), wherein the heating stream (6) is separated into two flue gas partial flows;

a first converter (2) and a second converter (3) arranged behind said first converter in a flow direction to a hydrogen-rich fluid flow (10), wherein each of the first converter and the second converter is configured for reforming hydrocarbons to hydrogen, and wherein the flow of matter (4) containing hydrocarbons is converted in the first converter and in the second converter to a hydrogen-enriched fluid flow;

a first heating element (8) that is flowed-through by the heating stream for heating at least one of the first and second converters (2, 3), wherein in at least one operating phase, the heating stream (6) for the second converter (3) flows completely in a counterflow direction to the flow of matter (4);

a second heating element (9) that is flowed-through by the heating stream for heating at least one of the first and second converters; and

an outlet opening provided on the second heating element, wherein the second heating element is provided with a flap for closing the outlet opening.

2. (previously presented) The apparatus (1) according to claim 1, wherein at least in one operating phase, the heating stream (6) for the first and second converters (2, 3) flows completely in a counterflow direction to the flow of matter (4).

3. (previously presented) The apparatus (1) according to claim 1, wherein the second heating element (9) that is flowed-through by the heating stream (6) is provided for heating one of the first and second converters (2, 3) in a start phase.

4. (previously presented) The apparatus (1) according to claim 3, wherein the at least one second heating element (9) is disposed between the first and second converters (2, 3).

5. (previously presented) The apparatus (1) according to claim 3, wherein an inlet opening (12) and/or an outlet opening (11) of the first and/or second heating element (6, 8) is provided with the flap for apportioning the heating stream (6).

6. (previously presented) The apparatus (1) according to claim 5, wherein at least one control unit is provided for controlling the flap.

7. (previously presented) The apparatus (1) according to claim 3, wherein the first and second converters (2, 3) and/or the first and second heating elements (8, 9) are arranged approximately coaxially to one another.

8. (previously presented) The apparatus (1) according to claim 3, wherein the heating apparatus (5) is arranged approximately coaxially to the converters (2, 3) and/or the heating elements (8, 9).

9. (previously presented) The apparatus (1) according to claim 3, wherein the heating apparatus (5) is arranged approximately centrally to the converters (2, 3) and/or the heating elements (8, 9).

10. (previously presented) A fuel cell assembly, comprising:
a fuel cell unit and an apparatus (1) for converting a hydrocarbon-containing flow of matter (4) to a hydrogen-enriched fluid flow (10), wherein the apparatus (1) comprises a heating apparatus (5) for production of a heating stream (6), wherein the heating stream (6) is separated into two flue gas partial flows; a first converter (2) and a second converter (3) arranged behind said first converter in a flow direction to a hydrogen-rich fluid flow (10), wherein the flow of matter (4) is converted in the first converter and second converter; a first heating element (8) that is flowed-through by the heating stream for heating at least one of the first and second converters (2, 3), wherein in at least one operating phase, the heating stream (6) for the second converter (3) flows completely in a

counterflow direction to the flow of matter (4); a second heating element (9) that is flowed-through by the heating stream for heating at least one of the first and second converters; and an outlet opening provided on the second heating element, wherein the second heating element is provided with a flap for closing the outlet opening.

11. (previously presented) A motor vehicle with a fuel cell assembly, wherein the fuel cell assembly comprises

 a fuel cell unit and an apparatus (1) for converting a hydrocarbon-containing flow of matter (4) to a hydrogen-enriched fluid flow (10), wherein the apparatus (1) comprises a heating apparatus (5) for production of a heating stream (6), wherein the heating stream (6) is separated into two flue gas partial flows; a first converter (2) and a second converter (3) arranged behind said first converter in a flow direction to a hydrogen-rich fluid flow (10), wherein the flow of matter (4) is converted in the first converter and second converter; a first heating element (8) that is flowed-through by the heating stream for heating at least one of the first and second converters (2, 3), wherein in at least one operating phase, the heating stream (6) for the second converter (3) flows completely in a counterflow direction to the flow of matter (4); a second heating element (9) that is flowed-through by the heating stream for heating at least one of the first and second converters; and an outlet opening provided on the second heating element, wherein the second heating element is provided with a flap for closing the outlet opening.